

ABSTRACT

The present invention provides a maraging steel excellent in fatigue characteristics and a process for the production thereof.

A maraging steel of the first embodiment of the present invention has a chemical composition consisting essentially of, in % by weight: C: 0.01% or less, Ni: 8-19%, Co: 8-20%, Mo: 2-9%, Ti: 0.1-2%, Al: 0.15% or less, N: 0.003% or less, O: 0.0015% or less, and the balance Fe and the Ti component segregation ratio and the Mo component segregation ratio in its structure of 1.3 or less each. A maraging steel of the second embodiment of the present invention has the above composition and contains a nonmetallic inclusion in its structure having a size of 30 μm or less. The maraging steel of the second embodiment can be obtained easily by appropriate plastic working of a steel ingot with a taper $T_p = (D_1 - D_2) \times 100/H$ of 5.0-25.0%, a height-diameter ratio $R_h = H/D$ of 1.0-3.0, and a flatness ratio $B = W_1/W_2$ of 1.5 or less. The material and production method of the present invention are suitable for various types of maraging steel members for which excellent fatigue characteristics are required.